

REMARKS

Claims 25, 27-38, and 46 are pending in the application. Of these, claims 25 and 46 are independent. Claim 46 is new. Claims 39-45 are canceled without prejudice to or disclaimer of the subject matter therein.

Restriction

Applicants acknowledge the restriction of claims 39-45 from the application. By this Reply, Applicants cancel claims 39-45 without prejudice to or disclaimer of the subject matter therein.

Rejections Under 35 U.S.C. § 103

In the Office Action, claims 25, 27, 32, and 34-38 are rejected under 35 U.S.C. § 103 as being unpatentable over JP 09-251981 to Kurihara *et al.* (Kurihara) in view of U.S. Patent No. 3,854,443 to Baerg. Claims 28, 30, and 31 are rejected under 35 U.S.C. § 103 as being unpatentable over Kurihara in view of Baerg and further in view of U.S. Patent No. 5,453,124 to Moslehi et al. Claims 29 and 33 are rejected under 35 U.S.C. § 103 as being unpatentable over Kurihara in view of Baerg and further in view of U.S. Patent No. 6,086,677 to Umotoy et al.

Claim 25 is directed to a processing apparatus reciting, among other features, “said primary gas supply system and said circulating gas supply system constituted as systems independent of each other at said shower head” and “said primary gas supply system and said circulating gas supply system are connected with each other via piping.”

Kurihara discloses a semiconductor manufacturing system that includes a chemical cylinder 111 which supplies process gas to a vacuum tube 101 through a nozzle. A turbo molecular pump 105 is connected to the vacuum tube 101, and a

recycle line 107 extends between the exhaust side of the pump 105 and the vacuum tube 101. See Kurihara, paragraph 11. FIG. 5 shows the holes from the recycle line being located at one side of the nozzle and the holes from the process gas supply being located at the other side of the nozzle.

Baerg discloses a gas reactor having a manifold 25 that introduces a gas into different zones. Outlet lines direct gas to the zones. Each outlet line is fed from a gas line 40 and 41. A valve controls the introduction of gas from the line 41 into the line 40. See Baerg, column 5, lines 16-21, Fig. 8.

However, neither Kurihara nor Baerg, alone or in combination, establishes a *prima facie* case of obviousness. To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference(s) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488 (Fed. Cir. 1991). See MPEP § 2143.

The Office Action fails to establish a *prima facie* case of obviousness because there is no suggestion or motivation in the prior art to combine reference teachings to arrive at the claimed invention. Kurihara fails to disclose a processing apparatus having, among other things, a primary gas supply system and a circulating gas supply system that are connected with each other via piping having a means for flow rate adjustment mounted thereon, as recited in claim 25. The Office Action relies upon

Baerg for a teaching of piping that connects two gas lines in the manner recited in claim 25. However, there is no suggestion or motivation in the art for combining the piping disclosed in Baerg with the system disclosed in Kurihara in the manner recited in independent claim 25. In this case, Baerg discloses that two gas lines can be connected. Yet this does not provide any suggestion or motivation to connect a primary gas system with a circulating gas system. Further, this does not provide a suggestion or motivation to connect two systems in the manner recited in claim 25.

The Office Action states that it would have been obvious to provide a mechanism as taught in Baerg to connect the primary and circulation lines through a valve so as to have the flexibility of using circulating holes for primary gas as well as circulating gas. See Office Action, page 3. However, this suggestion or motivation is not found anywhere in the prior art. Neither Kurihara nor Baerg teaches or suggests connecting a primary and a circulation system to provide circulating holes for both a primary and a recirculating gas, as suggested in the Office Action. Indeed, this suggestion or motivation appears to be taken directly from the application itself. Using an Applicants' disclosure as a blueprint to reconstruct the claimed invention from isolated pieces of the prior art references contravenes the statutory mandate of § 103, which requires determining obviousness at the time the invention was made. See *Grain Processing Corp. v. American Maize-Prods. Co.*, 840 F.2d 902, 907, 5 U.S.P.Q.2d 1788, 1792 (Fed. Cir. 1988). Because the prior art does not provide any suggestion or motivation to combine the teachings of Baerg and Kurihara in the manner suggested by the Office Action, claim 25 is not unpatentable in view of these references.

Additionally, the Office Action fails to establish a *prima facie* case of obviousness because Kurihara does not disclose all the subject matter relied upon in the Office Action. For example, the Office Action states that Fig. 8 of Kurihara discloses that the primary and circulating gas supply systems are connected. See Office Action, page 3, lines 2-3. However, even if Fig. 8 of Kurihara were to disclose connected gas supply systems as suggested in the Office Action, Fig. 8 of Kurihara does not teach or suggest all the features of claim 25, including a processing apparatus having, for example, gas supply systems independent of each other at a showerhead. The Office Action appears to rely upon Fig. 5 of Kurihara for a teaching of systems independent of each other at a showerhead. See Office Action, page 2. However, Fig. 5 of Kurihara does not teach or suggest all the features of claim 25, including a processing apparatus having, for example, gas supply systems connected with each other via piping.

Because the combination of Kurihara and Baerg does not establish a *prima facie* case of obviousness, claim 25 should be allowable. Therefore, Applicant respectfully requests that the Examiner withdraw the rejection and pass claim 25 to allowance.

Claims 27-38 depend from and add additional features to independent claim 25. Therefore, these claims are also allowable at least by virtue of their dependency. Applicants respectfully request that the Examiner withdraw the rejections of these claims and pass them to allowance.

New Claim

Claim 46 is a new claim. This claim includes all the features of claim 25 and additional features. Therefore, for at least the reasons discussed above, claim 46

should be allowable. Applicants respectfully request that the Examiner consider claim 46 and pass it to allowance.

Conclusion

In view of the foregoing amendments and remarks, claims 25, 27-38, and 46 should be allowable over the references cited and applied in the Office Action. Applicants respectfully request reconsideration of this application and the timely allowance of the pending claims. Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,
GARRETT & DUNNER, L.L.P.

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By: 

Dustin T. Johnson
Reg. No. 47,684